

Title (en)

Impeller for turbo pump for water jet propulsion machinery, and turbo pump including same impeller.

Title (de)

Rotor einer Turbopumpe für eine Wasserstrahlantriebsmaschine und eine einen solchen Rotor einschliessende Turbopumpe.

Title (fr)

Impulseur d'une turbopompe pour machinerie de propulsion à set d'eau et turbopompe comprenant un tel impulseur.

Publication

EP 0399343 A1 19901128 (EN)

Application

EP 90109190 A 19900516

Priority

JP 13157689 A 19890526

Abstract (en)

An impeller for a turbo pump in a water jet propulsion machinery used as propulsion means for ships having a volute casing or a diffuser type casing. The configuration of meridian section of an impeller shroud at the side of a boss is made as a concave arc-like surface of revolution, said boss shroud at the side of the blade inlet being formed in a cylindrical form substantially parallel to a rotary shaft, and each of the blades of the impeller is so shaped that the edge of the blade inlet projects greatly toward the impeller eye with said edge being smoothly connected to the surface of said boss shroud at the blade inlet boss shroud side and the edge of the blade inlet at the side of the casing extends substantially perpendicularly to the axis of rotation. The edges of the blade inlet at either of the boss and casing sides are connected by a smooth arc-like curve projecting convexly upstream to thereby form a continuous edge of the blade inlet, and the inlet angle of said edge of the blade inlet are uniform through the entire length and set to an angle nearer to 0\circ as small as possible, and the configuration of the blade at said blade inlet is connected by a smoothly curved surface to the configuration at the end of the blade outlet shaped as centrifugal or mixed flow type extending parallel or inclined to the rotary shaft.

IPC 1-7

B63H 11/08; **F04D 29/18**

IPC 8 full level

B63H 11/08 (2006.01); **F04D 29/18** (2006.01); **F04D 29/22** (2006.01); **F04D 29/24** (2006.01); **F04D 29/44** (2006.01)

CPC (source: EP US)

B63H 11/08 (2013.01 - EP US); **F04D 29/183** (2013.01 - EP US); **F04D 29/242** (2013.01 - EP US); **F04D 29/4273** (2013.01 - EP US); **F04D 29/448** (2013.01 - EP US)

Citation (search report)

- [X] GB 634160 A 19500315 - ANTONIO FELIX RIBEIRO
- [Y] US 3040696 A 19620626 - DAHLE CHARLES J
- [Y] US 2046226 A 19360630 - WEIGHTMAN HUGH E, et al
- [A] FR 2455197 A1 19801121 - ITT [US]
- [A] US 4708585 A 19871124 - FUKAZAWA TETSUO [JP], et al

Cited by

GB2327404A; EP0661425A1; CN1049476C; US5989083A; EP0511594A1; EP0764577A4; US7025557B2; US6699008B2

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

EP 0399343 A1 19901128; **EP 0399343 B1 19940427**; AU 5586290 A 19901129; AU 633573 B2 19930204; DE 69008416 D1 19940601; DE 69008416 T2 19941117; JP H0367097 A 19910322; JP H07117076 B2 19951218; US 5108257 A 19920428

DOCDB simple family (application)

EP 90109190 A 19900516; AU 5586290 A 19900523; DE 69008416 T 19900516; JP 13157689 A 19890526; US 74948191 A 19910815